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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,477	12/19/2001	Kazuhiro Takeuchi	YMOR:233	8137

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EXAMINER	
BATTAGLIA, MICHAEL V	
ART UNIT	**PAPER NUMBER**
2652	

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/018,477	TAKEUCHI, KAZUHIRO	
	Examiner	Art Unit	
	Michael V Battaglia	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 13-17* is/are rejected.

7)☒ Claim(s) *6-12 and 18-24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2,5 and 6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshikawa et al (hereafter Yoshikawa) (JP 11-203691). It is noted that Yoshikawa citations reference the translation provided by the Japanese Patent Office website.

In regard to claims 1 and 13, Yoshikawa discloses an optical disc discriminating method in an optical disc apparatus, the optical disc apparatus comprising: a laser light source (Fig. 1, element 21) for emitting a laser beam for irradiating an optical disc surface

via an objective lens (Fig. 1, element 23); a light detector (Fig. 1, element 24) for detecting reflected light of the laser beam emitted from said laser light source and reflected by said optical disc surface; a focus controller (Fig. 1, element 7) for controlling a focus condition by moving said objective lens in a direction of an optical axis in accordance with a focus error signal (Fig. 1, element FE) generated by said light detector; a tracking controller (Fig. 1, element 4) for controlling a tracking condition by moving said objective lens in a horizontal direction in accordance with a tracking error signal (Fig. 1, element TE) generated by said light detector; a disc signal discriminator (Fig. 1, element 11 and Fig. 3, element S9) for discriminating a type of said optical disc on a basis of a focus error signal (Fig. 1, element FE) and a sub beam addition signal (Fig. 1, element RF) obtainable in performing a focus search by moving said objective lens in the direction of optical axis by means of said focus controller (Fig. 3, elements S3-S5 and S8); and a disc information discriminator (Fig. 1, element 11 and Fig. 3, elements S12 and S16) for discriminating the type of said optical disc in accordance with information recorded on said optical disc, wherein final discrimination of the type of said optical disc is made on a basis of the type discrimination result of said optical disc by means of said disc signal discriminator and the type discrimination result of said optical disc by means of said disc information discriminator (Fig. 3, elements S9, S12 and S16).

In regard to claims 2 and 14, Yoshikawa discloses that the disc signal discriminator uses a signal level of the focus error signal and the sub beam addition signal as threshold data of quantity of reflected light for discriminating the type of the optical disc (Fig. 3, element S9 and Paragraphs 0052-0053).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 6,747,931) in view of Satoh et al (hereafter Satoh) (US 5,903,531).

In regard to claims 1 and 13, Park discloses an optical disc discriminating method in an optical disc apparatus, the optical disc apparatus comprising: a laser light source (Fig. 1, element 102 and Fig. 9A, element LD) for emitting a laser beam for irradiating an optical disc surface via an objective lens (Col. 1, lines 48-49); a light detector (Fig. 1, element 102 and Col. 1, lines 51-53) for detecting reflected light of the laser beam emitted from said laser light source and reflected by said optical disc surface; a focus controller (Fig. 1, element 107) for controlling a focus condition by moving said objective lens in a direction of an optical axis in accordance with a focus error signal generated by said light detector; a tracking controller (Fig. 1, element 108) for controlling a tracking condition by moving said objective lens in a horizontal direction in accordance with a tracking error signal generated by said light detector; a disc signal discriminator (Fig. 2, element 206) for discriminating a type of said optical disc on a basis of a focus error signal (Fig. 2, element FE) and a sub beam addition signal (Fig. 2, element RF) obtainable in performing a focus search by moving said objective lens in the direction of optical axis by means of said focus controller (Fig. 9A, elements 904 and 909 and Col. 9, lines 34-37); and a disc information discriminator for discriminating the accuracy of the type discrimination result from the disc

signal discriminator of the type of said optical disc in accordance with information recorded on said optical disc (Fig. 9B, element 923 and Col. 12, lines 12-14), wherein the final discrimination of the type of said optical disc is made on a basis of the type discrimination result of said optical disc by means of said disc signal discriminator and the discrimination confirmation result of said optical disc by means of said disc information discriminator (Figs. 9A and 9B). Park does not disclose a disc information discriminator for discriminating the type of said optical disc in accordance with information recorded on said optical disc, nor that the final discrimination of the type of said optical disc is made on a basis of the type discrimination result of said optical disc by means of said disc signal discriminator and the type discrimination result of said optical disc by means of said disc information discriminator. The disc information discriminator of Park merely reads out disc information to confirm whether the disc was accurately discriminated by the disc signal discriminator (Fig. 9B, element 923 and Col. 12, lines 12-14) and Park provides no information describing how the disc information discriminator handles the case when the disc is not accurately discriminated by the disc signal discriminator.

Satoh discloses a disc information discriminator (Fig. 13) for discriminating the type of an optical disc in accordance with information recorded on said optical disc. The disc information discriminator of Satoh discriminates the type of the optical disc by first attempting to confirm the accuracy of the type discrimination result of Fig. 13, element F2 and then, if the type discrimination result is determined to be inaccurate, the other disc types are cycled through until the correct disc type is discriminated (Fig. 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the disc information discriminator of Park with the disc

information discriminator of Satoh, the motivation being for the disc information discriminator in the optical disc apparatus of Park to correctly discriminate disc type even if the type discrimination of the disc signal discriminator is incorrect. It is noted that when incorporated into the optical disc apparatus of Park, the disc information discriminator of Satoh will discriminate the type of the optical disc in accordance with information recorded on the optical disc and start by determining the accuracy of the type discrimination result of the disc signal discriminator of Park before cycling through the other types of optical disc. Therefore, the final discrimination of the type of said optical disc in the optical disc apparatus of Park in view of Satoh is made on a basis of the type discrimination result of the optical disc by means of the disc signal discriminator of Park and the type discrimination result of the optical disc by means of the disc information discriminator of Satoh.

In regard to claims 2 and 14, Park discloses that the disc signal discriminator uses a signal level of the focus error signal and the sub beam addition signal as threshold data of quantity of reflected light for discriminating the type of the optical disc (Col. 10, lines 39-43).

In regard to claims 3 and 15, Park discloses that the disc signal discriminator discriminates whether the optical disc to be discriminated based on the focus error signal and the sub beam addition signal is a CD-ROM, a CD-R, a CD-RW or no disc (Fig. 9A, element 902 and Col. 13, lines 27-42).

In regard to claims 4 and 16, Satoh discloses that the disc information discriminator discriminates whether the optical disc to be discriminated based on the information recorded on the optical disc is any one of the possible types of optical discs (Fig. 13). Park

discloses that a CD-R, a CD-RW, and a CD-ROM are possible discs (Fig. 8). Therefore, Park in view of Satoh discloses that the disc information discriminator discriminates whether the optical disc to be discriminated based on the information recorded on the optical disc is a CD-R, a CD-RW, or a CD-ROM.

In regard to claims 5 and 17, Park in view of Satoh discloses that with regard to a loaded optical disc, in the case where the type of optical disc discriminated by the disc signal discriminator and the type of optical disc discriminated by the disc information discriminator differ from each other, a priority is given to the type of optical disc discriminated by said disc information discriminator. Priority is given to the type of optical disc discriminated by said disc information discriminator if the types discriminated differ from each other because the disc information discriminator will only discriminate a type of optical disc different than the disc signal discriminator if the disc information discriminator has determined that the type discriminated by the disc signal discriminator is incorrect (Fig. 13 of Satoh).

Citation of Relevant Prior Art

6. Kawasaki (US 5,745,461) discloses confirming a disc type discrimination found by focus searching by reading the disc ID (Col. 2). Shim (US 6,608,804) discloses reading the type of disc from a BCA of a disc instead of focus searching (Fig. 4). Yoshioka (US 6,141,307) discloses using focus search signals to discriminate disc type and then reproducing disc information to check for type discrimination error (Cols. 1-2). Yokota et al (US 6,628,591) discloses focus searching to discriminate between disc types including

CD-R, CD-RW, and CD-ROM and reading a disc TOC to determine disc type between CD-ROM and CD-DA (Fig. 10).

Allowable Subject Matter

7. Claims 6-12 and 18-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regard to claims 6 and 18, none of the references of record alone or in combination disclose or suggest an optical disc discriminating method in an optical disc apparatus comprising: or an optical disc apparatus comprising: a laser light source for emitting a laser beam for irradiating an optical disc surface via an objective lens; a light detector for detecting reflected light of the laser beam emitted from said laser light source and reflected by said optical disc surface; a focus controller for controlling a focus condition by moving said objective lens in a direction of an optical axis in accordance with a focus error signal generated by said light detector; a tracking controller for controlling a tracking condition by moving said objective lens in a horizontal direction in accordance with a tracking error signal generated by said light detector; a disc signal discriminator for discriminating a type of said optical disc on a basis of a focus error signal and a sub beam addition signal obtainable in performing a focus search by moving said objective lens in the direction of optical axis by means of said focus controller; and a disc information discriminator for discriminating the type of said optical disc in accordance with information recorded on said optical disc, wherein final discrimination of the type of said optical disc is made on a basis of the type discrimination result of said optical disc by means of said disc

signal discriminator and the type discrimination result of said optical disc by means of said disc information discriminator; wherein with regard to a loaded optical disc, in the case where the type of optical disc discriminated by the disc signal discriminator and the type of optical disc discriminated by the disc information discriminator differ from each other, a priority is given to the type of optical disc discriminated by said disc information discriminator; wherein **when the type of optical disc discriminated by the disc information discriminator is discriminated as the type of the optical disc inserted into the optical disc apparatus, a signal level obtained by the disc signal discriminator is adopted as a threshold value for discriminating the type of the optical disc used in said disc signal discriminator.**

In regard to claims 7 and 19, none of the references of record alone or in combination disclose or suggest an optical disc discriminating method in an optical disc apparatus comprising: or an optical disc apparatus comprising: a laser light source for emitting a laser beam for irradiating an optical disc surface via an objective lens; a light detector for detecting reflected light of the laser beam emitted from said laser light source and reflected by said optical disc surface; a focus controller for controlling a focus condition by moving said objective lens in a direction of an optical axis in accordance with a focus error signal generated by said light detector; a tracking controller for controlling a tracking condition by moving said objective lens in a horizontal direction in accordance with a tracking error signal generated by said light detector; a disc signal discriminator for discriminating a type of said optical disc on a basis of a focus error signal and a sub beam addition signal obtainable in performing a focus search by moving said objective lens in the direction of optical axis by means of said focus controller; and a disc information discriminator for discriminating the type of said optical disc in accordance with information

recorded on said optical disc, wherein final discrimination of the type of said optical disc is made on a basis of the type discrimination result of said optical disc by means of said disc signal discriminator and the type discrimination result of said optical disc by means of said disc information discriminator; wherein with regard to a loaded optical disc, in the case where the type of optical disc discriminated by the disc signal discriminator and the type of optical disc discriminated by the disc information discriminator differ from each other, a priority is given to the type of optical disc discriminated by said disc information discriminator; wherein **when the type of optical disc discriminated by the disc information discriminator is discriminated as the type of the optical disc inserted into the optical disc apparatus, an intermediate value between a maximum value of one of the signal levels of optical disc and a minimum value of the other of the signal levels of optical disc obtained by the disc signal discriminator is adopted as a threshold value for discriminating the type of the optical disc used in said disc signal discriminator.**

In regard to claims 10 and 22, none of the references of record alone or in combination disclose or suggest an optical disc discriminating method in an optical disc apparatus comprising: or an optical disc apparatus comprising: a laser light source for emitting a laser beam for irradiating an optical disc surface via an objective lens; a light detector for detecting reflected light of the laser beam emitted from said laser light source and reflected by said optical disc surface; a focus controller for controlling a focus condition by moving said objective lens in a direction of an optical axis in accordance with a focus error signal generated by said light detector; a tracking controller for controlling a tracking condition by moving said objective lens in a horizontal direction in accordance with a tracking error signal generated by said light detector; a disc signal discriminator for

discriminating a type of said optical disc on a basis of a focus error signal and a sub beam addition signal obtainable in performing a focus search by moving said objective lens in the direction of optical axis by means of said focus controller; and a disc information discriminator for discriminating the type of said optical disc in accordance with information recorded on said optical disc, wherein final discrimination of the type of said optical disc is made on a basis of the type discrimination result of said optical disc by means of said disc signal discriminator and the type discrimination result of said optical disc by means of said disc information discriminator; wherein with regard to a loaded optical disc, in the case where the type of optical disc discriminated by the disc signal discriminator and the type of optical disc discriminated by the disc information discriminator differ from each other, a priority is given to the type of optical disc discriminated by said disc information discriminator; wherein **when the type of optical disc discriminated by the disc information discriminator is discriminated as the type of the optical disc inserted into the optical disc apparatus, an intermediate value between an average value of signal levels in one type of optical disc discriminated by said disc information discriminator and an average value of signal levels in the other type of optical disc discriminated by the disc signal discriminator is adopted as a threshold value for discriminating the type of the optical disc used in said disc signal discriminator.**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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